AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (previously presented): An indium phosphide substrate containing iron or tin as a dopant, comprising:

an average dislocation density value of a wafer being less than 5000 cm^{-2};

a ratio of the difference between a maximum value and a minimum value with respect to an average value of dopant concentration in said wafer being 30% or less;

a substantially uniform distribution of said dopant concentration in the depth direction of said wafer.

Claim 2 (previously presented): An indium phosphide substrate containing iron or tin as a dopant, comprising:

an average dislocation density value of a wafer being less than 2000 cm^{-2};

a ratio of the difference between a maximum value and a minimum value with respect to an average value of dopant concentration in said wafer being 30% or less;

a substantially uniform distribution of dopant concentration in the depth direction of said wafer.

Claim 3 (previously presented): An indium phosphide substrate according to Claim 1, wherein:

diameter of said substrate is 75 mm or greater.

Claim 4 (previously presented): An indium phosphide substrate according to Claim 1, wherein:

diameter of said substrate is 100 mm or greater.

Claim 5 (previously presented): An indium phosphide substrate containing sulfur or zinc as a dopant and having a diameter greater than or equal to 100 mm, comprising:

an average dislocation density value of a wafer being less than 5000 cm^{-2};

a ratio of the difference between a maximum value and a minimum value with respect to an average value of dopant concentration in said wafer being 30% or less;

a substantially uniform distribution of said dopant concentration in the depth direction of said wafer.

Claim 6 (previously presented): An indium phosphide substrate containing sulfur or zinc as a dopant and having a diameter greater than or equal to 100 mm, comprising:

an average dislocation density value of a wafer being less than 2000 cm^{-2};

a ratio of the difference between a maximum value and a minimum value with respect to an average value of dopant concentration in said wafer being 30% or less;

a substantially uniform distribution of said dopant concentration in the depth direction of said wafer.

Claims 7, 8 (canceled).

Claim 9 (currently amended): An indium phosphide crystal containing ~~iron or~~ tin as a dopant, wherein:

a direction of growth has a <100> orientation; and

an average dislocation density value on a (100) plane, which is perpendicular to said growth direction, is less than 5000 cm^{-2}.

Claim 10 (previously presented): An indium phosphide crystal containing iron or tin as a dopant, wherein:

a direction of growth has a <100> orientation; and

an average dislocation density value on a (100) plane, which is perpendicular to said growth direction, is less than 2000 cm^{-2}.

Claim 11 (previously presented): An indium phosphide crystal according to Claim 9, wherein:

a diameter of said crystal is 75 mm or greater.

Claim 12 (previously presented): An indium phosphide crystal according to Claim 9, wherein:

a diameter of said crystal is 100 mm or greater.

Claim 13 (previously presented): An indium phosphide crystal containing sulfur or zinc as a dopant and having a diameter of 100 mm or more, wherein:

a direction of growth has a <100> orientation;

an average dislocation density value on a (100) plane, which is perpendicular to said growth direction, is less than 5000 cm^{-2}.

Claim 14 (previously presented): An indium phosphide crystal containing sulfur or zinc as a dopant and having a diameter of 100 mm or more, wherein:

a direction of growth has a <100> orientation; and

an average dislocation density value on a (100) plane, which is perpendicular to said growth direction, is less than 2000 cm^{-2}.

Claims 15, 16 (canceled).

Claim 17 (previously presented): A method for manufacturing an indium phosphide monocrystal containing a dopant, comprising:

placing a seed crystal, which has a cross-sectional area of 15% to 98% of a cross-sectional area of a crystal body, has an average dislocation density of less than 5000 cm^{-2} and has a substantially constant cross-sectional area along a length direction, at a lower end of a growth container so that direction of growth of said crystal is <100> oriented, said growth container including a seed crystal housing region having a substantially constant cross-sectional area, a crystal body housing region having a cross-sectional area larger than that of the seed crystal housing region, and a tapering region between the seed crystal housing region and the crystal body housing region;

placing said growth container containing said seed crystal, indium phosphide raw material, dopant, and boron oxide in a crystal growth chamber, and raising the temperature to at or above the melting point of indium phosphide;

after heating and melting boron oxide, indium phosphide raw material, dopant, and a portion of said seed crystal, lowering the temperature of said growth container in order to grow a monocrystal with a <100> orientation in a longitudinal direction of said growth container.

Claims 18, 19 (canceled).

Claim 20 (previously presented): A method for manufacturing an indium phosphide monocrystal according to Claim 17, wherein:

in a longitudinal cross-section which includes a crystal central axis, an angle of said tapering region from said seed crystal to said crystal body with respect to said crystal central axis is 40 degrees or less.

Claim 21 (previously presented): A method for manufacturing an indium phosphide monocrystal according to Claim 17, wherein:

in a longitudinal cross-section which includes a crystal central axis, an angle of said tapering region from said seed crystal to said crystal body with respect to said crystal central axis is 20 degrees or less.

Claim 22 (canceled).

Claim 23 (previously presented): A method for manufacturing an indium phosphide monocrystal according to Claim 17, wherein:

said seed crystal has an average dislocation density of less than 2000 cm^{-2}.

Claim 24 (previously presented): A method for manufacturing an indium phosphide monocrystal according to Claim 17, wherein:

said seed crystal has an average dislocation density that is lower than a target average dislocation density of said crystal which is to be grown.

Claim 25 (previously presented): A method for manufacturing an indium phosphide monocrystal according to Claim 17, wherein:

after maintaining said indium phosphide raw material, dopant, and a portion of said seed crystal in a heated melted state for a fixed period of time, the temperature of said growth container is lowered in order to grow a monocrystal with a <100> orientation in a longitudinal direction of said growth container.

Claim 26 (original): A method for manufacturing an indium phosphide monocrystal according to Claim 25, wherein:

after maintaining said indium phosphide raw material, dopant, and a portion of said seed crystal in a heated melted state for 1 hour or more, the temperature of said growth container is lowered in order to grow a monocrystal with a <100> orientation in a longitudinal direction of said growth container.

Claim 27 (previously presented): A method for manufacturing an indium phosphide monocrystal containing a dopant according to Claim 17, wherein:

growth rate when growing said crystal from said seed crystal is 10 mm/hour or less.

Claim 28 (previously presented): A method for manufacturing an indium phosphide monocrystal containing a dopant according to Claim 17, wherein:

growth rate when growing said crystal from said seed crystal is 5 mm/hour or less.

Claim 29 (previously presented): A method for manufacturing an indium phosphide monocrystal containing a dopant according to Claim 17, wherein:

growth rate when growing said crystal from said seed crystal is 2.5 mm/hour or greater.

Claim 30 (previously presented): A method for manufacturing an indium phosphide monocrystal containing a dopant according to Claim 17, wherein:

said growth container is a pBN (pyrolytic boron nitride) container.

Claim 31 (previously presented): A method for manufacturing an indium phosphide monocrystal containing a dopant according to Claim 17, wherein:

prior to housing said seed crystal, indium phosphide raw material, dopant, and boron oxide in said growth container, an inner surface of said growth container, at least a part which will come into contact with a melt produced by the melting step, is coated with a boron oxide film.

Claim 32 (previously presented): A method for manufacturing an indium phosphide monocrystal containing a dopant according to Claim 17, wherein:

said crystal body has a diameter of 75 mm or greater.

Claim 33 (previously presented): A method for manufacturing an indium phosphide monocrystal according to Claim 17, wherein:

said crystal body has a diameter of 100 mm or greater.

Claim 34 (previously presented): A method for manufacturing an indium phosphide monocrystal according to Claim 17, wherein:

said dopant is Fe (iron).

Claim 35 (previously presented): A method for manufacturing an indium phosphide monocrystal containing a dopant according to Claim 17, wherein:

said dopant is S (sulfur).

Claim 36 (previously presented): A method for manufacturing an indium phosphide monocrystal containing a dopant according to Claims 17, wherein:

said dopant is Sn (tin).

Claim 37 (previously presented): A method for manufacturing an indium phosphide monocrystal containing a dopant according to Claims 17, wherein:

said dopant is Zn (zinc).

Claim 38 (new): An indium phosphide crystal containing iron as a dopant, wherein:

a direction of growth has a <100> orientation; and

an average dislocation density value on a (100) plane, which is perpendicular to said growth direction, is less than 2500 cm^{-2}.

Claim 39 (new): An indium phosphide crystal according to Claim 38, wherein:

a diameter of said crystal is 75 mm or greater.

Claim 40 (new): An indium phosphide crystal according to Claim 38, wherein:

a diameter of said crystal is 100 mm or greater.